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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,755	11/09/2001	Klaus Koppenhofer	31713-175916	6001

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VANABLE  
P.O. Box 34385  
Washington, DC 20043-9998

EXAMINER
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NGUYEN, THUKHANH T

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/986,755

Applicant(s)

KOPPENHOFER, KLAUS

Examiner

Thu Khanh T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 1 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 2 discloses that the molds are arranged in multiple rows, but this limitation is not supported by the specification. Paragraph 10 (as indicated by the applicant) only discloses that the prior art reference fails to disclose the molding tools arranged in multiple rows.

Claim 14 discloses multiple rods for ejecting multiple cavities of the molding tool. There is no support for this limitation in the specification.

The applicant is required to cancel these limitations from the claims in respond to this Office Action.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-10,12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK Patent (2 079 668) in view of Merklinghaus et al (4,932,856).

The UK Patent ('668) teaches an apparatus for forming thermoplastic beaker, comprising an upper tool (60) having a compressed air supply (60a), a lower tool part having at least one blank punch (36) and a shaping part (40), which has an inwardly directed pinched edge (40a) extending around the inner wall of the shaping part, an axially displaceable mold floor (52b) movable between a first position (Fig. 1, 52) and a second position (Fig. 2, 52), an axially displaceable sealing bell (50) surrounding the periphery of the mold floor in the raised position (Fig. 2, 40, 50, 52), a drive (50 c-d) for driving the sealing bell. The apparatus further comprises a plurality of molds for simultaneously molding a plurality of beakers (page 2, lines 48-53).

The UK patent fails to disclose water bore at the mold floor.

Merklinghaus et al disclose an apparatus for thermoforming hollow articles, comprising a plurality of mold cavities (102a-b) having a movable ejecting mold floor (126) connecting to a piston member, wherein the mold floor and the piston member (126) includes water cooling channels (134) for cooling the mold and the formed article after molding.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the UK reference by providing a water cooling channel on the mold floor as taught by Merklinghaus et al in order to facilitate the cooling of the mold and the formed article after the molding process.

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In regard to the orientation of the mold cavities, it would have been obvious to one of ordinary skill in the art to place the multiple mold cavities in different rows in order to increase the number of molds in a mold plate.

In regard to claims 3-10 and 12, the UK reference's apparatus further comprises that the mold floor (52b) and the sealing bell (50) are guided axially relative to one another (Figs. 1-2; 50, 52); a retaining plate (Fig. 1, 50d) connected to a piston (50c) that is displaced in a bore of a base plate for the lower part of the tool (30, 32); wherein the mold floor (52b) is attached to a rod (52c) that is rigidly connected to an ejector plate (52) for moving the mold floor (Fig. 3, 52, 52b, 52c); a carrier plate connected to and for supporting the piston and the rod (Figs. 1-3, 30); and wherein blank punch has a cutting edge (Fig. 1, the top edge of blank punch 35).

In regard to claim 14, the UK reference discloses that a multiple mold systems are used, but for reasons of simplicity, only one mold is described (page 2, lines 48-55). Therefore, the UK reference inherently teaches a plurality of molding cavities with a plurality of ejector plate and rods.

5. Claim 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the UK patent ('668) in view of Merklingshaus et al ('856) as applied to claims 2-10, 12 and 14 above, and further in view of Yaita et al (4,758,394).

In regard to claim 10, The UK patent discloses a sheet thermoforming apparatus as described above, but fails to disclose that the blank punch and the shaping parts are integrally formed as one piece.

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Yaita et al disclose an apparatus for forming cups from thermoplastic material, comprising an integral piece of blank punch and shaping parts (20, 30). It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the UK reference by providing an integral piece of blank punch and the shaping parts as taught by Yaita et al in order to prevent part-misalignment problems.

In regard to claim 13, the UK reference fails to disclose that the ring of the shaping part comprises hardened steel. Yaita et al disclose that the male and female molds are made of stainless steel (col. 7, line 37-38). It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the UK reference by providing the ring comprises stainless steel as taught by Yaita et al, because the stainless steel would improve the hardness and thermo conductivity of the shaping ring.

### ***Response to Arguments***

6. Applicant's arguments filed February 18, 2005 have been fully considered but they are not persuasive.

The applicant argued that the prior art fails to teach or suggest a "multiple row arrangement", however, this limitation is not supported by the specification and is improperly amended in the claims. Paragraph 10 of the specification describes the prior art mold that is incapable of arranged in multiple rows. Paragraph 12 does not disclose this limitation at all.

Further, the UK reference discloses that a plurality of molds is used to form a plurality of beakers simultaneously. It would have been obvious to one of the skilled artisan to modify the arrangement of the cavities in different rows in order to save space on the mold plate.

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The water cooling channel/bore on the mold floor is taught by Merklinghaus et al ('856). It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the UK reference by providing the cooling channel on the mold floor in order to improve cooling of the mold and the formed articles.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Khanh T. Nguyen whose telephone number is 571-272-1136. The examiner can normally be reached on Monday- Friday, 6:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin L. Utech can be reached on 571-272-1137. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TN

  
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